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## Modern Studies of Modern Languages

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## Modern Studies of Modern Languages

Frank Knowles and Agnes Kukulska-Hulme

### 1 Introduction

The modern languages, or foreign languages (FL) teaching scene was probably the first discipline in the arts and humanities to be affected in a mass way, over a quarter of a century ago, by technology for teaching purposes—in the shape of the language laboratory, with its dual profile of hardware and software. Such devices became more or less ubiquitous in tertiary, secondary and, to some extent, even in primary education. Unfortunately, they also rapidly came to be seen as enslaving rather than liberating agents, primarily because of their almost universal use as rigid skills-trainers. This is a danger which continues today to confront methodologists and those who design and author instructional materials which utilise a specific and, *prima facie*, 'alien' delivery system. What is, of course, important is how to achieve smoothly the necessary transition from pencil and paper, plus chalk and talk, to a learning environment which is perceived as natural and stimulating by those using it, both teacher and taught.

It is very clear on all counts today that there is enormous scope for the involvement of computers and IT more generally in the business of foreign-language teaching and research. Even talk of a 'redefinition' of the whole field is no longer merely hyperbolic—it has already taken place, at least in a technical sense: new, more expansive boundaries have been set and new scope has been created. It is now up to those directly involved to mark out this new territory and make it arable and capable of bearing the fruits which need to be cultivated on it. This challenge is already finding its champions.

As is well known, computers have been assisting FL teachers and scholars in their work for some very considerable time. Now, however, this minority stands to become the overwhelming majority as the ergonomics, economics, appropriacy and cost-effectiveness of using computers are accepted by the FL confraternity at large, with all the multifarious activities it pursues and the profiles it assumes. It would be wrong to claim, however, that all is over bar the shouting! There are many legitimate questions which need to be asked and which are being asked. The grand lines of this debate can be summarised as follows: does the involvement of computers lead to new insights, to qualitatively and substantively new techniques, in fact, to a paradigm shift? What are the 'before and after' pictures of the



discipline like? Are the computational methods being used not just new in the domain of their application but also, perhaps, innovative from the point of view of computer science itself? If so, then both the donor and receptor disciplines stand to be affected in terms of their own evolution to fuller maturity.

## 2 Computers and Language Studies

In the field of research computer techniques were applied to language-oriented problems very early indeed: the commissioning of electronic devices—the progenitors of today's computers—and the use of algorithmic, statistical and pattern-matching methods in the field of cryptology, notably cryptanalysis, is attested as far back as 1942. In the early years of peace after the Second World War significant programmes of research into machine translation were initiated and pursued, with a seemingly impossible mixture of ingenuousness and disingenuousness on the part of the researchers involved—these particular efforts have experienced their troughs and crests ever since then and are today finally assuming a more realistic posture. This comes at a time when the pace of hardware and software advances has quickened and when translators and other 'language mediators' have shown themselves much more willing than previously to espouse the rough-and-ready working practices the use of such machine aids entails. Computer-assisted textual studies (Cameron, et al., 1986), ranging from 'straight-up' concordancing to stylostatic investigations, are now regarded by many linguists and literary scholars as routine working methods—computer assistance here has origins dating back well over a generation. The methods themselves, of course, antedate by a considerable period the advent of the technology that now makes the business of using them so unencumbered by logistic constraints. Information Science has in like manner long been in the business of designing and implementing computer software and systems involving natural language processing for the important purposes of information search and retrieval systems.

Let us, however, come back centre stage to FL: the study of modern languages—we must not forget that English is a foreign language for millions and millions of people, by the way!—is, like any other academic discipline, an amalgam of three components: firstly, intellectual reasoning and general cerebration; secondly, a database, in this case, that which is particular to the language involved; and thirdly, the need to develop a set of very specific but nonetheless multifunctional skills. One is strongly tempted to add in an affective dimension in view of the fact that it is impossible to undertake the long-term and committed study of a foreign language without simultaneously developing feelings of affection for the object of study. In the ultimate, this process is, of course, referred to as 'going native'! However, the relativities between the above three main components are rather different in FL learning than is the case in most other subjects.

Firstly, the skills effort is a major undertaking: for progression in language skills alone, *ab initio* to interpreting standard, something of the order of 3000 hours of systematic instruction (75 weeks at 5 days per week, for 8 hours per

day), coupled with extensive practice and private study, is necessary. In the framework of university studies, such a regimen is not really feasible and recourse is taken to passable alternatives, such as an aggregate of, say, 1000 hours of concentrated instruction alongside a 'year out' plus two long vacations abroad for the students: the 'stage' overseas yields something like 8000 waking hours (70 weeks at 16 hours per day) of 'exposure' which is episodic, rather than systematic. Pedagogically, these two learning styles are at opposite ends of a spectrum: the ideal case would be a much more integrated and judiciously planned mixture of the two approaches. Secondly, the database of a language is—to use modern parlance—'hairy': the ratio of system to data is small. Thirdly, the intellectual component too has three dimensions to it: the language itself; the people who speak it; and the country or countries where it is spoken. One ought perhaps to add the value derived from deliberate or involuntary—often the latter—comparisons and contrasts of the unfamiliar with the familiar. Analogies with other subjects are not easy to adduce but one of the more successful ones would liken the study of foreign languages to that of music: students of foreign languages must, on this analogy, be both expert instrumentalists and composers.

The aims of foreign language teaching can be expressed on both a lofty and a utilitarian level. On the one hand, the task is to impart to students such cognitive knowledge and skills as will enable them to function not only as effective communicators but also as authentic and empathetic partners in their dealings, professional and personal, with citizens of foreign countries. On the other hand, it is necessary for students to learn how to focus their aim, often how to narrow their 'field of fire,' so to speak, and how precisely to optimise the returns on the effort they expend. Along with the grand strategy must go a set of severely practical goals—these are to some extent a matter of quite deliberate personal choice and such choices can lead to the exclusion or severe 'deprioritisation' of areas which might, *prima facie*, be considered absolutely essential: is an oral command, or translating, or area studies a high priority or not, in given circumstances? Although the foreign-language arena can thus appear to be very diversified, often tempting students to dissipate their efforts, there is a growing call for an appropriate focus to be created and emphasis placed today in higher education on the various professional contexts for which students need to be intellectually and practically prepared.

The abiding tasks of FL research are expressible in terms which, *mutatis mutandis*, are equally valid for other subject disciplines: capturing new data; transforming such data into utilisable information and systematic results; developing new methodological tools; demonstrating applications and applicability; extending the power of analysis; facilitating the process of synthesis; and (re-)evaluating the paradigm, both internally and in terms of its interstices and interface with other areas of academic endeavour. One particular effort which may be more characteristic of FL work—although ready comparisons with mathematics are possible—is the definition and elaboration of useful FL subsets for 'outsiders.'



Some remarks about postgraduate research seem apposite at this point. Humanities research, never properly supported by a designated research council, is under very considerable pressures at the present time. Symptoms of these pressures are, for instance, the '36-month Ph.D' and the recent suggestion by the British Academy that undergraduate degrees in the humanities may no longer be preparing students for immediate entry into postgraduate research work. One corollary of the present situation—irrespective of how substantive and substantiated the British Academy's worries may be—is that attention needs to be urgently devoted to the design and the implementation of suitable, comprehensive and systematic research methods courses for postgraduate students in the humanities. Such courses will involve computers in a dual way: as important objects of attention in their own right and also as delivery vehicles for much of the content of these courses.

The working and study world of foreign languages has always been extensively variegated along two dimensions. The first dimension is, of course, dictated by the fact that there are many different foreign languages: the universals of language study, carefully distilled by linguists from all of these tongues, can act as a framework and reference point, but often such an approach is, effectively speaking, submerged in the structure and data of individual language systems. The other dimension is that of the chosen focal point: is the aim to retain a strictly linguistic, almost introverted, focus, or is it to explore a given speech community's cultural manifestations, phenomena which are *sui generis*, idiosyncratic, holistic and resistant to generalisation? Or is it to examine in detail the *realia* of the countries involved, their organisation and infrastructure, their economic, political or geopolitical significance? Linguists would aver that activities of this last-mentioned variety can themselves only be truly understood and mastered via the language in which the given society operates and formulates its collective wisdom. One quite visible trend today in higher education centres concerned with foreign language teaching, learning and research is a reduced degree of introversion and a commensurately growing tendency, proceeding via cross-disciplinarity, to interdisciplinarity—this is being accompanied *pari passu* by the espousal of cross-national contrastive studies and by the emergence of internationalist methodologies. This is a very important role for the humanities to play.

### 3 The Development of Computing

It is now apposite to say something about computers themselves: since their advent in the 1940's computers have progressively revolutionised very many areas of human activity. For scholars of the natural sciences, engineering, medicine, as well as the social sciences and humanities the computer has, in varying degrees, transformed working methods. In some cases, such as meteorology, the transformation is what might literally be called cataclysmic: professional methods used prior to the deployment of computers are antediluvian compared with what they are today. There is, quite simply, no real basis of comparison. In other disciplines, particularly in linguistics and its satellite activities, the desirability

of calling on computer assistance has been a more gradual process of perception and movement, and the effects have been commensurately less pervasive in their scope and inexorability. Today, as noted above, more and more scholars in the humanities are coming round to the conviction that they too have a definite stake in the information technology (IT) revolution; they are increasingly amenable to the idea of using computers, not just for the purposes of logistic efficiency—in teaching, for instance—but also in order to be less vulnerable to the dangers of subjectivity in their research findings and analyses. Humanities scholars, including linguists, have necessarily been affected too by the more general process of mathematicisation, or at least formalisation, which has, over the thirty to forty years, exerted such a far-reaching influence on scholarly thinking about economic and sociological phenomena.

What then is the nature of this machine, the technological device called the computer, which has transformed so many areas of life? In its essentials, the computer's importance derives from two simple, easily understandable and easily feasible notions: firstly, the possibility of coding utterly diverse types of data in an electronically reliable and uniquely identifiable manner; secondly, the ability to submit such data to programs, to process it—whatever that term may mean in the actuality of many different applications and contexts—and to output 'results' with a consistency and a speed which are far in excess of the capacity of the human brain aided by human motor skills. The use of the word 'data' in this formulation needs to be glossed further: there is a special and crucially important type of data without which computers would be virtually emasculated—data in the form of operational instructions which are intended to be applied to 'real' data, in the normal sense of that term. This feature is often referred to as the 'stored program' concept: if the word 'program' designates, as one of its meanings, an ordered sequence of activities, viewable as an entity, then it is clear that in computer parlance such a definition is especially apt. Computer programs, at least in their 'classical' guise, are indeed ordered sequences of steps, either commands or conditions, which are executed according to the logical flow of the programmer's intentions. Programmers must predict, if their programs are to be useful, certain logical options which can be selected according to given criteria testable within the processing environment itself, that is, at a remove in time and space from the programmer's original conception. This is the essence of the so-called algorithmic method. In other words, the aim of those who use computers to assist them with their work is quite literally to analyse problems, to break them down into sub-problems and discrete steps so as then to be able to synthesise solutions in such a way that no further human intervention is required because the human, preferably algorithmic thought-process and problem-solving strategy have been captured and can be perpetuated at will in a computational environment.

At the present time an important evolution is taking place, as we all know, with regard to the methodology of computer programming. Although traditional methods which have withstood the test of time, are still predominant, many efforts are



under way to develop further and to enhance programming languages which have a radically different philosophy. If traditional languages such as FORTRAN, ALGOL68, PL/I or PASCAL, are characterised as 'imperative' languages—because the individual program statements give orders—then languages of a more recent design, such as PROLOG, can be classified as 'declarative and interrogative:' the essence of programming in such languages is to establish a set of entities, to assign their attributes as appropriate, to declare relationships holding between the entities, and subsequently to interrogate the resulting environment in order to elicit relationships not declared contiguously or not even declared at all, all as part of an analysis of truth-values and an enquiry into presuppositions and entailments. This is an important development in the humanities, not least in computational linguistics, because it dispenses with many of the constraints and artificialities of imperative language programming in favour of intuitively more satisfying and better matched methods for heuristically formulating and solving problems.

A further aspect of the always welcome evolution of computer programming techniques concerns the design of software tools and their functional appropriateness for particular types of user. There was a time when it was a reasonable assumption that anyone making use of a computer would have familiarity with standard software techniques, would even have a respectable grasp of the functional and technological details of machine architecture, and would possess programming skills of some sophistication. In other words, the computer's power was, by and large, accessible only to experts and aficionados who were, in their turn, made to put up with poor ergonomics, arcane software and atrocious documentation. Fortunately, such times are rapidly on the wane: there has been a major reorientation in the way software tools are designed—now a very high premium is placed on 'user-friendliness,' involving clear menus, pull-down windows, fail-safe procedures, etc. The so-called 'end-user' no longer needs to know how to program in order to make highly sophisticated use of most of what the information technology revolution has to offer. Developments of this sort have crucial benefits to offer FL specialists and it is to be hoped that they will soon enjoy an *embarras de richesses* as far as suitable and attractive hardware and software options are concerned. This happy situation is not with us yet, however. In order for it to transpire, some attitudes must change and some inhibitions must be overcome: IT must be courted rather than flirted with, and the engagement must lead to wedlock.

The mention of hardware is a pointer to the statement that hardware itself has undergone a process of rapid technological advance and diversification. It is still, of course, true that so-called mainframe computers are every bit as important as they always have been, even if they are in the nature of things bound to suffer from being available only to those with a certain amount of institutional support and personal determination. The real change has been the design and marketing of powerful machines of small physical dimensions which can be put to work on surprisingly realistic tasks against a capital outlay which is constantly decreasing. In other words, value for money gets better and better. This appears to be a

trend which may well continue for the next decade at least. Hand in hand with the increasing power and sophistication of these so-called personal or desktop computers (PCs) has gone a commensurate enhancement of ancillary hardware such as visual display units (VDUs) and laser printers. The very logistics of work have been transformed by developments such as networking and distributed systems. It is true to say that today there are virtually no problem-solutions, known to be technologically feasible, which cannot be implemented on devices of the above sort. It is indeed a tenable view that computers—be they of the maxi, midi, mini or micro variety—have assumed a pre-eminence in technologically advanced societies which permeates those societies through and through, both predicating future prosperity and exercising a major influence as a new mass medium, not just on professional life but also on education and leisure. This facet of societal computerisation has great relevance to both the pragmatic and the cultural role of language outside the realm of higher educational institutions.

#### 4 Information Technology and the Student

Let us now try to take a snapshot of the position of foreign-language staff and students insofar as they are actively able today to profit from the IT revolution. Obviously, almost everything depends on institutional support and that varies very much from institution to institution, and from country to country. The general picture in the advanced world is very encouraging, however. In the UK statements from bodies such as the University Grants Committee and the Computer Board are on record to the effect that there are specific and entirely valid computing requirements in the humanities area and that these requirements need to be accorded a proper priority in financial plans and budgets. From a resourcing point of view it must be remembered that one is always dealing with the threesome of hardware, software and humanware. The next question down is concerned with how whatever resources are available are partitioned and allocated—this has particular relevance to the perennial question of whether an institution should provide a central computing service alone, or encourage a distributed approach which, in its turn, gives rise to the option of going for non-mainframe solutions if they commend themselves. It is very clear that both approaches need to co-exist in most institutions, depending—obviously—on the portfolio of activities adjudged to have a high priority.

One of the abiding—and currently very topical—questions is differentiation of research and teaching, the former still quite largely mainframe-oriented, the latter profiled more towards multi-station workshops. The research infrastructure nearly always needs to be underpinned by suitable staffing levels, with a due complement of computer officers knowledgeable about and specialising in applications software. Another underpinning mechanism is, of course, electronic mail which makes feasible the sort of inter-institutional research effort and scholarly collaboration which is so characteristic of the humanities. A number of UK institutions of higher learning—notably universities of technology—now have



PC procurement policies based on the principle of a 'one-per-desk' provision for members of academic staff. This type of policy may, in its turn, be complemented by a 'one workstation per four or five students' approach, translated into suitable physical terms by extensive local area network facilities. Moreover, the days are surely not far off when it will be virtually *de rigueur* for all types of undergraduate students to acquire—at a suitable price—PCs for the duration of their courses.

What has just been said is probably a valid prescription or description for any humanities student—what, then, are the special factors which may apply to FL students? Firstly, FL students need and want to do FL word processing as well as working through the medium of English. 'Word processing' is, incidentally, a 'weaker' term than its French or German counterparts, *'traitement de texte'* and *'Textverarbeitung'*, respectively. What is really implied and striven for is an advanced L1/L2 (mother tongue/foreign language) writing environment of the sort now becoming commercially available and permitting a full range of text-based activities such as: full dictionary consultation (not mere 'spell checking'); indexing, concordancing, frequency tabulation; structuring ideas; text de- and re-construction, such as summarising and stylistic 'transposition,' for instance; document revision; on-screen text comparison; draft translation; stylistic monitoring, such as checking cohesive ties, etc. (Britton and Glynn, 1989). This amounts, of course, to the integration of the various tools needed at the 'writer's and translator's workbench.' The design of the physical bench itself, so to speak, needs much care and attention too. It is an unhappy accident that in so many respects—and in a wider sense too—computing software is so very Anglo-centric. This means that, in our local environment, it is necessary to go to great lengths to provide students—many of them actually from EEC countries—with facilities for working with foreign character-sets, with FL menus, with FL spelling-checkers and so on. In fact, they accumulate a lot of experience in doing that, not only at their university base but also in the professional placements which constitute an integral part of their programme of studies—in this instance it can amount to over 3000 hours of professional working time. It should, of course, be borne in mind that the majority of FL students at technological universities are studying on joint or combined honours programmes involving other disciplines, such as business studies, biology, or computer science.

However, there is more than mere word processing to the computing experience which FL students acquire (Chesters and Gardner, 1988): three other types of computing are involved. Arguably, the most important of all is database work. FL students are easily taught—via 'mini-dictionary' simulation—the fundamentals and the significance of database computing. They learn to appreciate why it may be significant in a special way that the modern French word for a computer is now *'ordinateur'* rather than the previous term *'calculatrice'*! In many cases students develop their own personal databases for use in other areas of their studies—the fact that more university libraries are by now fully computerised, offering electronic retrieval and title browsing, is an added bonus. In the very near future

FL—and other—students will be able to gain ready access to local and remote, proprietary and public-domain databases of a professional orientation to assist them in the extensive project work of a sociological, business studies or economics profile which forms an essential part of their studies. Such a development is already very much in train at Aston, for instance. Plans are also in hand there to introduce volunteer students to appropriate statistical packages and to provide them with the necessary training in statistics, in an attempt to open up yet further desirable professional options for them once they graduate. In all these areas of their work, FL students, for instance, can take on board more readily than most others the fact of life that there are important cross-national and cultural differentials in professional fields which might at first sight appear to be 100%-shared 'universes of discourse.' FL students can, moreover, even profit from acquainting themselves with spreadsheet software which can prove very suitable for project work on opinion polls or demographic and sociolinguistic studies, as well as in the orthodox areas of national and international accounting studied, for instance, by Aston students following a joint honours programme in International Business and Modern Languages.

The last type of computing—who is to say whether it is the most important or distinctive?—is computer-assisted language learning (CALL), particularly audio-enhanced computer-assisted language learning (AECALL: Hainline, 1987). Remarks earlier about whether the effect of computers or technology is to enslave or liberate are topical again here. Early CALL software was virtually vitiated by its severely didactic but anti-educational character and by the rigidity with which the computer remained 'in charge' of the learning session. Further drawbacks were the artificiality of the exercises and the ergonomically and pedagogically hampering effect of 'short response' drills, specifically designed to minimise the need for extensive keyboarded responses, given the error-proneness of that way of working. Today the so-called WIMP ('windows, icons, mouse, pointer') environment has removed that latter obstacle and the evolution of audio enhancement stands to see off the former problem as well. The synchronisation—a term used somewhat loosely—of video, audio and machine-readable material is a major qualitative jump in this type of software. The advent of flexible animated graphics software, of voice input and output is a culminating transformation which is yet before us, hopefully not too far into the future. One major application awaiting rapid development is the computer-assisted enhancement, for pedagogical purposes, of satellite TV broadcasts in foreign languages. These advances appear to be only just over the threshold (Stevens, Sussex, and Tuman, 1988).

It is a potentially contentious step to dwell on the detailed obligations placed on non-computer scientists such as FL students by reason of their involvement with computers and IT. Is it permissible, so to speak, to teach students of this profile how to use applications software without also informing them of the bases on which such software is actually engineered—or indeed without going the whole hog and teaching them how to program, at least on the level of prototyping solutions to



linguistic and language-related problems? Human nature appears to dictate that one of the earliest reactions most people have to packaged software is an urge to test it to destruction! Moreover, there is an irresistible temptation to profit from the facilities offered by the host programming language of a database management system; programming suitable 'end-user macros' in spreadsheet software is also a natural desire for most users of such powerful and serviceable tools. It is a question that cannot be addressed properly here but there is scope enough to make the point—we base this on several years' experience of teaching programming to FL students—that between ten and twenty percent of such students have innate skills in this area which might otherwise remain latent in the absence of such instruction. The fact that a cadre of people versed in natural language applications programming thereby evolves may be seen as a bonus, given the pressing need for the development and codification of a linguistics or natural language processing (NLP) equivalent of the National Algorithms Group (NAG) in the field of computational mathematics, statistics and engineering etc.!

### 5 The Next Step

It is easy to enumerate, in outline, other important desiderata: software for assisting in and also investigating the twin processes of document generation and revision—if inferencing, coherence and the sequencing of both explicit and implicit cohesive ties can also be modelled, so much the better. The notion of language spreadsheets also needs to be pursued: changes to a 'formula cell' in such an environment could trigger off—or could call for interaction on—consequential changes of a morphological, syntactic or even stylistic nature in the linguistic material subordinate to or associated with that 'controller cell.' For example, a sentence presented to students for transformation—the students might even choose what sort of transformation!—would be accompanied by a separate cell containing details of the way in which the sentence is to be changed. In the simplest possible instance, say, of number concord students would then commence their task: the point is that the spreadsheet approach would then highlight and draw to students' attention, either immediately or in the appropriate sequence, all the points at which intervention was required.

On a higher level software tools to permit or to scrutinise reasoning by analogy or reasoning on the basis of incomplete information—so common in the humanities—is urgently needed; even a powerful and flexible ability to detect and examine the premisses to arguments would be a great step forward. On the 'static' side of humanities computing the search should be urgently continued for methods to operationalise for on-line use reference works such as dictionaries, encyclopaedias and thesauri—methods should be evolved for building into such repositories a multiplicity of learning paths, adaptive ones if possible. In fact, in order to support language learning, particularly the productive use of language—whether the language involved is the mother tongue or a foreign language is neither here nor there—more must be known about the components of these activities. If

computers are involved then it must be realised that they too are caught up in what we perceive to be the dilemma of language learning v. language acquisition. To what extent can an ostensibly holistic process like writing really and realistically be viewed as consisting of several aspects or be broken down into stages—which then somehow need to be re-aggregated? One has to keep looking beyond the mechanisation of old methods, e.g. traditional dictionary look-up, to new ways of supporting language use, such as conceptually-based dictionary organisation methods, integrated into text-processing software. Above all, it must be remembered that studying a language is to enter a process of learning about communication. Computers, of course, highlight certain aspects of communication, notably:

- interrogation skills: the way you ask a question determines the answer you get;
- relationships between entities: what turns data into information?
- the rigours of the written word: accuracy and logical organisation count a great deal;
- the complexity of linguistic skills: why can computers not translate fiction?
- conceptual difficulties: languages differ in the way in which they divide up the universe;
- presentation: the delivery of the message is as important as its content.

How many of the acknowledged achievements in computer-assisted FL work deserve to be called innovative in the sense that they have, in one way or another, redefined the FL area of the humanities? How many of the changes in prospect will have that effect? There is no doubt that the FL field is in the throes of a major transformation with respect to the ethos and the practicalities of its teaching, research and professional modalities. The sophisticated use of computers—and, rather more widely, of IT—has made possible significant qualitative advances: the ability to examine large quantities of intricately structured data, the ability to reduce the danger of subjectivity and unsupported value-judgement, the ability to conduct large-scale experimentation, the ability to detect structures and patterns in data which would surely have otherwise remained hidden, the ability to profit from algorithmic and statistical methods in the description and modelling of linguistic processes. These developments are now beginning to lead to the design and implementation of integrated utilities, such as the translator's and/or author's workbench and to the elaboration of lexical databases, configurable either as specialist's tools for the office or as public-domain utilities for the lounge.

The pace of development in innovative FL teaching at tertiary level—'modern studies of modern languages'—is very swift: those involved in it are clear that the FL paradigm has shifted, and not at all to the detriment of the foreign languages



themselves. Computers have shown that they can be of enormous assistance with what was earlier referred to as the 'hairy FL database' and the skills acquisition exercise—work must obviously continue on both of these fronts. But should not attention be now focussed on how IT may be properly deployed to enhance the intellectual quality of FL and humanities work, and to promote the values to which all the humanities subscribe? One should not overlook the 'spin-off' benefits for academics in terms of a more sure-footed professionalism and the motivating awareness of the vital and exciting contribution to educational life which can and should flow from a new humanities, operating in tandem with information technology and, hopefully, hand in hand with other academic disciplines.

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